IUCN/SSC FRESHWATER CHELONIAN GROUP

NEWSLETTER

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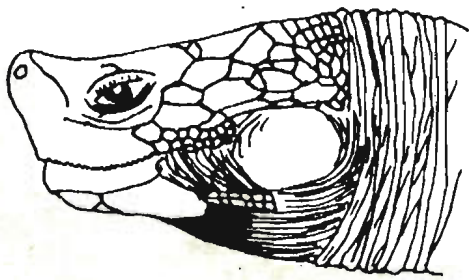
Eastern Illinois University
Charleston, Illinois 61920
USA



Number 3
February 1982

FRESHWATER TURTLE TRADE: DRUGS

A little reported but significant drain on the turtle populations within the Oriental Region is their use in the making of medicines and tonics. Turtle derived drugs have been used by the Chinese for treating certain ailments since at least 2737 B.C. (Nanking Pharmaceutics School 1961). Traditionally Chinemys reevesii has been one of the most popular species for this purpose. Although the meat, gall, blood, and urine are all used for medical preparations, it is the plastral scutes which are most important. A drug called "Gui Ban" is prepared by heating the scutes until a gelatinous paste is formed. It is used for a variety of problems including tuberculosis, leukorrhea, menorrhagia, chronic malaria or dysentery, lethargy, piles, rickets and failure of a childs skull bones to grow together. A similar drug with many of the same uses is prepared from the carapace of Trionyx sinensis and is called "Biejia".

There are no figures on the numbers of turtles being slaughtered in China each year for use in medicines but it is evident that the supply is insufficient to satisfy the demand. China is currently importing turtles from surrounding countries to satisfy this need. I first became aware of this trade when reading an article by Dr. Shibata (1975) of the Osaka Museum in which he mentioned that at least 5 non Chinese species of turtles were being imported into Hong Kong to substitute for Chinemys in the making of Gui Ban. Shibata identified Cyclemys dentata, Heosemys grandis, Malayemys subtrijuga, Geochelone elongata and G. impressa which all occurred in Thailand and assumed that probably this is where the shipments originated. More recently Dr. Rheza Khan our representative in Bangladesh mentioned that large numbers of turtles in his country were also being shipped to Hong Kong, presumably for the same purpose.

In order to determine if this trade is seriously affecting the species of the area, I have begun to search for statistics on the subject. The first returns are in: In the last 6 months 154,146Kg of freshwater turtles were imported into Hong Kong; 133,428Kg were from Bangladesh and 20, 718Kg from Thailand. The majority of turtles in these shipments were said to be ca. 5 Kg which translates into over 26000 turtles from Bangladesh and over 4000 from Thailand. From the standpoint of conservation this trade has very serious implications. The full extent of the problem is difficult to assess since trade within each country often requires no permits or accounting. Also while the Chinese rank as the greatest consumers of turtles for drugs and tonics, the practice is not restricted to them. The Japanese use Gui Ban under the name of Kiban. I recently read (The Malay Nature Journal, June 1981) that pep pills made from turtles of South-East Asia (probably a Kiban preparation) were being marketed in Japan. In India Lissemys punctata are being widely sold as a treatment for tuberculosis. In Malaysia, a Moslem country, turtles are eaten less but the eggs of many species are heavily exploited both as food and because they have reputed aphrodisiacal properties (a common belief in tropical countries

worldwide).

I am interested in collecting more information on the use of turtles in medicines anywhere in the world. If you can supply any data on medicinal use or quantities of turtles being utilized in your area, I would appreciate hearing from you.

CATALOGUE OF AMERICAN AMPHIBIANS AND REPTILES

In the early sixtys, the American Society of Ichthyologists and Herpetologists began the ambitious project of providing individual accounts for all of the reptiles and amphibians of America. Each account includes a synonomy, a definition of the taxon, a description, a list of available illustrations, the fossil record, citations of pertinent literature and a range map. To date accounts are available for 51 species of turtles and an additional 54 accounts are in various states of completion. Carl Ernst, editor of the Testudines Section has been kind enough to provide the list of the accounts which I have appended. The project is now administered by the Society for Study of Amphibians and Reptiles and anyone wishing to subscribe or additional information about the catalogue can write:

Stephen G. Tilley
Dept. of Biological Sciences
Smith College
Northampton, Massachusetts 01060 USA

PUBLICATIONS OF INTEREST

BLANC, C.P. Notes sur les Reptiles de Tunisie: III - Distribution et perspectives de protection des Tortues terrestre et dulçaguicole. Archs. Inst. Pasteur Tunis, 55 (1-2):51-66.

This paper includes a distribution map of Emys orbicularis and Mauremys caspica leprosa, documents declines in populations of the two turtles due to the pet trade and describes conservation legislation initiated by the Tunesian government. (See Newsletter 1 ofr Blanc's address)

CITIES 1981. Guidelines for transport and preparation for shipment of live wild animals and plants. Published by United Nations Environment Programme. Copies of the Guidelines may be ordered by sending $13.00 US plus postage to UNIPUB, 345 Park Avenue South, New York, N.Y. 10010, USA.

Graham, T.E. 1981. New approaches to endangered turtle research. BIOS 52(3):121-126.

A review of recent methods for life history study which are nonharmful to the turtle. Address: Dept. of Biology, Worcester State College, Worcester, Massachusetts 01602.

Honegger, R.E. 1978. Geschlechtsbestimmung bei Reptilien. Salamandra 14(2):69-79.

A review of methods used to sex reptiles.

Honegger, R.E. 1979. Marking amphibians and reptiles for future identification. International Zoo Year Book 19:14-22.

Honegger, R.E. 1981. Breeding endangered species of amphibians and reptiles: Some critical remarks and suggestions. British J. Herpetology 6: 113-118. Honegger's address appears earlier in this newsletter.

In Newsletter 1, I cited two recent studies on temperature-dependent sex determination in turtles. Professor Blanc has provided these additional citations of Professor Pieau on this subject. Pieau did the pioneering work in this area and continues to be a leader in the field.

Pieau C. et al. 1979. Sur l'utilisation de sérum anti-H-Y de Souris pour la détermination du génétique chez Emys orbicularis L. (Testudines , Emydidae). C.R. Acad. Sci. Paris. 288:351-354.

Pieau C. et al. 1979. Expression of H-Y antigen in young turtles (Emys orbicularis L.) issued from eggs incubated at different temperatures. Arch. Anat. Micr. Morph. Exp. 68:222.

Pieau, C. 1978. Effets de temperatures d'incubation basses et élevées sur la différenciation sexelle chez des embryons d' Emys orbicularis L. (Chelonien). C.R. Acad. Sci. Paris. 286:121-124.

Pieau C. 1976. Données récentes sur la différenciation sexuelle en fonction de la température chez les embryons d' Emys orbicularis L. (Chelonien). Bull Soc. Zool. France. 101 (suppl. #4):: 46-53.

Pieau C. 1975. Temperature and sex determination in the embryos of two chelonians, Emys orbicularis L. and Testudo graeca L. In R. Reinboth (Ed.) Intersexuality in the animal kingdom. Springer-Verlag, Berlin. 333-339.

Pieau, C. et. al. Determination of sensitive stages for sexual differentiation of the gonads in embryos of turtles Emys orbicularis (Testudines, Emydidae) J. Morph. 170

Rouault J. and C.P. Blanc. Notes on reptiles de Tunisie: IV. Caractéristiques biometriques de Mauremys caspica leprosa (Schweigger, 1812) (Reptilia: Emydidae). Archs. Inst. Pasteur 55 (3): 337-357. Includes a biometric study of the growth of Mauremys caspica in Tunesia.

CITES - IDENTIFICATION MANUAL OF ENDANGERED AND THREATENED SPECIES

In Newsletter 2, I included a sample from the tortoise section of the identification manual being sponsored by CITES for use by customs officers throughout the world. René Honegger, the preparator of this excellent work, is now engaged in completing the turtle section. He needs to obtain good color slides and black and white photos of the species listed below for an artist to draw and identification picture and a diagram of the carapacial and plastral scute arrangement. If you have pictures of any of the listed species which you are willing to loan for this important work send them to:

René E. Honegger
Curator of Herpetology
Zoo Zürich
Zürichbergstrasse 221
CH-8044 ZÜRICH
SWITZERLAND

Species needed: Dermatemys mawii
Caretta caretta
Chelonia depressa
Chelonia mydas
Eretmochelys imbricata
Lepidochelys kempii
Lepidochelys olivacea
Dermochelys coriacea
Lissemys punctata punctata
Trionyx ater
Trionyx gangeticus
Trionyx hurum
Trionyx nigricans
Trionyx triunguis
Pelomedusa subrufa
Pelusios gabonensis
Pelusios niger
Pelusios subniger
Podocnemis erythrocephala
Podocnemis expansa
Podocnemis lewyana
Podocnemis madagascariensis
Podocnemis sextuberculata
Podocnemis unifilis
Podocnemis vogli
Pseudemydura umbrina

FUNDING

The most common obstacles to the successful completion of our action plan are first finding interested and qualified personnel to take on the projects and then finding the funding needed to support them. Of the two, the latter is most serious as there are presently more proposals being submitted than are funded. Freshwater turtle projects have an image problem. It is far easier to find support for projects dealing with large, impressive, high profile species such as tigers, whales and pandas. Even among chelonians, sea turtles and tortoises often have the edge in this regard.

One approach to the problem is to establish a fund specifically designated for use on turtle conservation projects. We have had some success with this approach. Last year a number of private individuals contributed money earmarked for conservation of freshwater chelonians to WWF-US. For this beginning we are largely indebted to the efforts of Drs. Russ Mittermeier and John Constable. We now need to build on this beginning to maintain and increase the fund. One approach we will be taking is contacting industries particularly those which utilize turtles as a trademark or symbol to provide an annual endowment for chelonian conservation. We also will be looking for a funding organization (e.g. WWF, ARCC etc.) which would be willing to partially or fully match funds which can be raised from private donations. If you have any suggestions of industries or organizations which should be contacted in regard to the above or if you can suggest alternative approaches for funding our action plan, please respond.

Each issue I plan to recommend an organization which will fund conservation oriented projects. Last newsletter, I spotlighted World Wildlife Fund. This issue recommends the Fauna and Flora Preservation Society based in London. Applicants should be aware

of the 100% Fund which will provide up to £500 for emergency projects involving endangered species. Priority projects of IUCN/SSC Specialist groups receive preferential treatment. An application form has been appended to this newsletter.

Recommendations for Membership

Members of IUCN/SSC specialist groups are appointed to serve during three year terms. The most recent term ended December 31, 1981. As our group was only recently established I have recommended to Dr. Grenville Lucas, SSC Chairman that all present members be reappointed to serve the next full term. I also recommended the following be appointed as new members or consultants:

René Honnegger - Western Palearctic-Ethiopian
Zoo Zürich
Zürichbergstrasse 221
Ch-8044 Zürich
Switzerland

John Behler - Nearctic
New York Zoological Society
Bronx Zoo
Bronx, New York 10460

Dale Jackson - Nearctic
Florida Natural Areas Inventory
Nature Conservancy
254 # 6th Ave
Tallahassee, Florida 32301

Richard C. Vogt, Investigator Titular - Neotropical
Estacion de Biologia Tropical "Los Tuxtlas"
Instituto de Biologia
U.N.A.M.
Apartado Postal 94
San Andres Tuxtla, Veracruz
Mexico

S.R. Sane - Eastern Palearctic and Oriental
SACHETAN
L 4/5 Sitaram Building
Palton Road
Bombay 400 001
India

REGIONAL NEWS IN BRIEF

Eastern Palearctic and Oriental Region

Pakistan has placed a 3 year moratorium on the export of mammals, reptiles and their derrivatives as of 1 September 1981. Freshwater turtles have been part of this trade: in the year from April 1980 - March 1981 30 Hardella thurji, 180 Kachuga smithi and 10 Chitra indica were exported.

Rom Whitaker and Edward O. Moll have received a grant for $12,250 US from the Animal Research and Conservation Center to continue their investigations on the conservation status of freshwater chelonians in India.

Australian Region

Mark Rose a FAO/UNDP Wildlife biologist working in Papua New Guinea has received a grant from WWF to study the status of Carettochelys insculpta. Initial objectives will be to determine the present exploitation level of the species in the Kikora River district of PNG, the size of the population and its dynamics.

Nearctic Region

John Behler was recently asked by the New York State Department of Environmental Conservation to participate in their review of the state endangered species list. John kindly forwarded me a copy of his comments. In regard to the non marine turtles of the state Kinosternons subrubrum and Clemmys muhlenbergi are regarded as endangered, Emydoidea blandingi as threatened and Terrapene carolina, Clemmys guttata, Clemmys inculpta, and Malaclemys terrapin as deserving special concern.

On another matter John Behler is to be congratulated for his role in the establishment of Bog Brook State Nature Preserve for Clemmys muhlenbergi in south-eastern Putnam Co. New York. John was instrumental in identifying the Bog Brook habitat and provided much of the essential information to the N.Y. Department of Enviornmental Conservation prior to the acquisition.

Those involved with the controversy surrounding the attempted listing of the Illinois Mud Turtle as a federal endangered species will be interested to hear Dr. Will Carpenter of Monsanto Agricultural Products Co. (leader of the opposition to the listing) has been nominated for the "Distinquished Service in Envrionmental Planning Award" of the Iowa Development Commission. Mr. Carpenter's nomination has been supported by Harold J. O'Connor, Deputy Associate Director of the Fish and Wildlife Service.

Neotropical Region

As a follow up to his recent survey of the Cat Island Turtle, Pseudemys felis (Newsletter 2), Perran Ross will soon begin a combination scientific-education project to aid conservation of the species. The scientific part will seek population and ecological data for the species whereas the education portion will aim to create among the local citizentry "a pride in their unique local fauna that will lead to a general conservation ethic" The latter will involve use pamphlets, tee shirts, and posters depicting the Cat Island Turtle.

Ross project is being co-sponsored by World Wildlife Fund-US and the Animal Research and Conservation Center.

The newsletter is supported by the Species Survival Commission of the International Unior for the Conservation of Nature and Natural Resources, World Wildlife Fund U S. and Eastern Illinois University.

CATALOGUE OF AMERICAN AMPHIBIANS AND REPTILES

TESTUDINES SECTION: Carl H. Ernst, Editor

Accounts Published:

Chelidae
Phrynops gibbus (1981) - Ernst
Dermatemydidae
Dermatemys, D. mawii (1980) - Iverson & Mittermeier
Trionychidae
Trionyx ater (1973) - Webb
Tronyx ferox (1973) - Webb
Trionyx muticus (1973) - Webb
Trionyx spiniferus (1973) - Webb
Kinosternidae
Claudius, C. angustatus (1980) - Iverson & Berry
Kinosternon acutum (1980) - Iverson
Kinosternon angustipons (1980) - Iverson
Kinosternon baurii (1974) - Ernst
Kinosternon dunni (1981) - Iverson
Kinosternon flavescens (1978) - Seidel
Kinosternon herrerai (1980) - Berry & Iverson
Kinosternon sonoriense (1976) - Iverson
Kinosternon subrubrum (1977) - Iverson
Sternotherus carinatus (1979) - Iverson
Sternotherus depressus (1977) - Iverson
Sternotherus minor (1977) - Iverson

Emydidae
Pseudemys decorata (1980) - Bickham
Pseudemys nelsoni (1978) - Jackson
Chrysemys picta (1971) - Ernst
Clemmys generic (1977) - Bury & Ernst
Clemmys guttata (1972) - Ernst
Clemmys insculpta (1972) - Ernst
Clemmys marmorata (1970) - Bury
Clemmys muhlenbergii (1977) - Ernst & Bury
Deirochelys, D. reticularia (1971) - Zug & Schwartz
Emydoidea, E. blandingii (1973) - McCoy
Graptemys versa (1981) - Vogt
Rhinoclemmys generic (1981) - Ernst
Rhinoclemmys annulata (1980) - Ernst
Rhinoclemmys areolata (1980) - Ernst
Rhinoclemmys funerea (1980) - Ernst
Rhinoclemmys nasuta (1980) - Ernst
Rhinoclemmys pulcherrima (1981) - Ernst
Rhinoclemmys punctularia (1981) - Ernst
Rhinoclemmys rubida (1981) - Ernst
Terrapene ornata (1978) - Ward

Testudinidae
Gopherus generic (1978) - Auffenberg & Franz
Gopherus agassizii (1978) - Auffenberg & Franz
Gopherus berlandieri (1978) - Auffenberg & Franz
Gopherus flavomarginatus (1978) - Auffenberg & Franz
Gopherus polyphemus (1978) - Auffenberg & Franz

Cheloniidae
Chelonia generic (1980) - Hirth
Chelonia mydas (1980) - Hirth

Dermachelyidae
Dermachelys, D. coriacea (1980) - Pritchard

Accounts In Press

Kinosternidae
Sternotherus odoratus (1981) - Reynolds & Seidel

Emydidae
Malaclemys M. terrapin (1981) - Ernst & Bury
Terrapene coahuila (1981) - Iverson
Terrapene nelsoni (1981) - Iverson

Accounts Assigned

Chelidae
Chelus, C. fimbriatus - Rhodin
Hydromedusa generic - Rhodin
Hydromedusa maximiliani - Rhodin
Hydromedusa tectifera - Rhodin
Phrynops generic - Pritchard
Phrynops geoffroanus - Pritchard
Phrynops hilarii - Pritchard
Phrynops hogei - Pritchard
Phrynops nasutus - Pritchard
Phrynops rufipes - Pritchard
Phrynops tuberculatus - Pritchard
Platemys generic - Ernst (Ms. partially completed)
Platemys pallidipectoris - Ernst (Ms. completed)
Platemys platycephala - Ernst (Ms. partially completed)
Platemys radiolata - Ernst (Ms. partially completed)
Platemys spixii - Ernst (Ms. completed)

Chelydridae
Macroclemys, M. temminckii - Dobie

Trionychidae
Trionyx generic - Webb (Ms. almost completed)

Kinosternidae
- Kinosternon alamosae - Berry
- Kinosternon creaseri - Berry & Iverson (Ms. partially completed)
- Kinosternon hirtipes - Iverson
- Kinosternon integrum - Berry
- Kinosternon leucostomum - Berry
- Kinosternon oaxacae - Iverson (Ms. completed, awaiting ruling by ICZN)
- Kinosternon scorpioides - Berry
- Staurotypus generic - Iverson (Ms. on review)
- Staurotypus salvinii - Dean & Bickham (Ms. partially completed)
- Staurotypus triporcatus - Iverson (Ms. on review)
- Sternotherus generic - Zug

Emydidae
- Chrysemys generic - McDowell
- Pseudemys alabamensis - McCoy & Vogt
- Pseudemys concinna - Legler
- Pseudemys decussata - Zug - Schwartz
- Pseudemys floridana - Legler
- Pseudemys malonei - Seidel
- Pseudemys rubriventris - Graham
- Pseudemys scripta - Legler
- Pseudemys terrapin - Bickham
- Graptemys generic - Dobie, Folkerts & Mount
- Graptemys barbouri - Sanderson
- Graptemys flavimaculata - McCoy & Vogt
- Graptemys geographica - McCoy & Vogt
- Graptemys nigrinoda - Dobie & Lahanas (Ms. partially completed)
- Graptemys oculifera - Dobie, Folkerts & Mount
- Graptemys ouachitensis - Vogt (Ms. reviewed)
- Graptemys pseudogeographica - Vogt (Ms. reviewed)
- Graptemys pulchra - Shealy

Cheloniidae
- Eretmochelys, E. imbricata - Frazier
- Lepidochelys olivacea - Moll

Accounts Unassigned

Pelomedusidae
- Peltocephalus, P. dumeriliana
- Podocnemis generic
- Podocnemis erythrocephala
- Podocnemis expansa
- Podocnemis lewyana
- Podocnemis sextuberculata
- Podocnemis unifilis
- Podocnemis vogli

Chelydridae
- Chelydra, C. serpentina

Kinosternidae
Kinosternon generic

Emydidae
Pseudemys generic
Pseudemys dorbigni
Pseudemys felis
Terrapene generic
Terrapene carolina

Testudinidae
Geochelone generic
Geochelone carbonaria
Geochelone chilensis
Geochelone denticulata
Geochelone elephantopus complex

Cheloniidae
Caretta, *C. caretta*
Lepidochelys generic
Lepidochelys kempi

Please complete and return one copy to: The Fauna and Flora Preservation Society, c/o Zoological Society of London, Regent's Park, London NW1 4RY

No.

GRANT APPLICATION FORM

Please print or type

1. Title of Project

2. Species Involved

3. Name and address of Applicant

4. Qualifications & relevant experience

5. Supervisors or Supporters Address and Signature: 1. 2.

6. Outline of Project
(Full description can be attached, but a summary must be provided here)

7. Total number of people involved

8. Operating Dates 8.2 Expected date for completion & final report

9. Conservation Benefits expected from project

10. Educational value of project to local population

11. Scientific Results

12. Total Budget 6.2 Amount requested from FPS

13. Have you approached WWF? If so, what results

14. What other funds are available?

15. Which authorities have you approached concerning your project and with what results?

Please be sure to read the 'Notes to Applicants' below before sending your application form.

16. How did you hear of the 100% Fund?

17. Are you a member of FFPS?

100% Fund

Notes to Applicants

The 100% Fund was established to provide small amounts for funding (normally up to £500) for emergency projects involving endangered species. To qualify for a grant from this fund applicants should answer all questions of the application form and ensure that they indicate clearly how an endangered species will benefit from such a grant.

Projects which are integrated into priorities established by the IUCN will receive preferential treatment, particularly if the project has been endorsed by IUCN.

Signed ..... Date .....